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ABSTRACT

An empirically-based theory is proposed that relates media's most essential modes of presentation--their symbol systems--to modes of cognitive representation and to the acquisition of knowledge. This book draws upon scholarship in such areas as the study of symbol systems, cognition, cognitive development, psycholinguistics, and mass communication. It argues that, seen from a psychological point of view, communication symbol systems, including those used by media, differ from each other as they call for different modes of mental activity in the construction of meaning and in the acquisition of knowledge (thus benefiting different learners), and because they cultivate different kinds of mental skills (thus benefiting different kinds of mental processes). The book is roughly divided into two parts. Three chapters provide the theoretical backdrop: chapter 1 critically reexamines the construct of media, chapter 2 describes characteristics of symbol systems, and chapter 3 provides a theoretical overview of the various ways in which symbol systems interact with cognition. Chapters 4 through 8 describe the studies through which the theoretical framework was examined: chapter 4 describes a study that tested the proposition that different symbolic modes require different sets of cognitive skills in the service of knowledge construction; chapter 5 provides the rationale for the studies described in chapter 6, studies designed to test the proposition that different symbolic modes cultivate different kinds of mental skills in interaction with individual differences; chapter 7 reports how "Sesame Street," with formats unique to Israeli children not accustomed (then) to them, affected their skill mastery; and chapter 8 describes a cross-cultural study designed to test the effects of television's symbol system on children's mental skill mastery under "natural" conditions. Finally, chapter 9 attempts to pull together, revisit, widen the scope, and summarize the preceding eight chapters. This book should interest researchers and scholars in educational psychology, cognition and cognitive development, instructional design, communication, media, and educational technology. (Contains over 250 references.) (MAS)